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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,044	11/13/2003	Hirotooshi Otsuki	1403-0258P	7114

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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/706,044	Applicant(s) OTSUKI, HIROTOSHI	
	Examiner Steven D. Maki	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>111303</u> . | 6) <input type="checkbox"/> Other: ____ |

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1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) **Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al (US 6201049) in view of Japan 851 (JP 58-3851) and the admitted prior art (page 9 line 23 to page 10 line 2) and optionally at least one of Lickes et al (US 6426378) and Agostini et al (US 6521691).**

Sakamoto et al discloses a rubber composition for a tire sidewall comprising

100 parts by weight diene rubber;

0.5-2.5 parts by weight wax;

3-7 parts by weight of an **antioxidant** containing 30-100% by weight of **N-(1-methylheptyl)-N'-phenyl-p-phenylenediamine**; and

0.8-1.8 parts by weight sulfur

wherein the diene rubber comprises a combination of 50-80% butadiene rubber and 20-50% natural rubber. See col. 1 lines 49-63, col. 2 lines 7-22. The rubber composition is superior in ozone crack resistance and is resistant to brown and white discoloration.

See col. 1 lines 43-46, examples. Sakamoto et al teaches an invention example wherein a rubber sheet comprising the rubber composition was patched on a tire sidewall and then vulcanized to make a tire having a size of 285/75R24.5 (a pneumatic radial tire). The rubber sheet has a thickness of 3.5 mm and a width of 200 mm. See col. 4 lines 32-37. Sakamoto et al does not specifically recite providing the rubber sheet

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containing diene rubber and the antioxidant N-(1-methylheptyl)-N'-phenyl-p-phenylenediamine with a thickness of 0.5-5 mm and a width of 20-100 mm and locating the rubber sheet on the buttress of a pneumatic tire.

As to claims 1-3, it would have been obvious to one of ordinary skill in the art to provide Sakamoto et al's rubber sheet containing antioxidant with a thickness of 0.5-5 mm and a width of 20-100 mm and

locate the rubber sheet on the buttress of a pneumatic tire since (1) Sakamoto et al suggests locating the rubber sheet, which may have a thickness of 3.5 mm and a width of 200 mm, on a tire sidewall of a pneumatic tire so that the tire has *ozone crack resistance* and resistance to brown and white discoloration and (2) Japan 851 suggests preventing flow *crack* at the edge of a tread rubber layer of a radial tire by locating a rubber sheet containing antioxidant at the buttress of a pneumatic tire (figure 1) wherein the rubber sheet has a thickness G of 1.5-4.0 mm and a width L of 25-75 mm (figure 2, page 265 top left column).

Furthermore, it would have been obvious to one of ordinary skill in the art to provide Sakamoto's antioxidant **N-(1-methylheptyl)-N'-phenyl-p-phenylenediamine** adsorbed on **silica** as claimed since:

(1) Sakamoto, which teaches that **silica** may be included in the rubber composition (col.3 lines 43-49), suggests using **N-(1-methylheptyl)-N'-phenyl-p-phenylenediamine** such as OZONONE 35 from SEIKO CHEMICAL CO. LTD. as the antioxidant (col. 4 lines 22-24);

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(2) the admitted prior art teaches that known antioxidant's available from SEIKO CHEMICAL CO., LTD. include Antioxidant 35 (**N-(1-methylheptyl)-N'-phenyl-p-phenylenediamine**) and Antioxidant 35-PR (**mixture of N-(1-methylheptyl)-N'-phenyl-p-phenylenediamine and silica**, in a solid state at 40°C or lower, proportion of silica: approximately 33% by weight, CTAB absorption amount of silica: 165m²/g); and optionally:

(3) (a) Lickes et al, directed to the tire art, suggests using **silica** to absorb antidegradants, which may otherwise migrate to its surface and thereby inhibit, or reduce, interfacial adhesion (col. 4 lines 56-60) and/or (b) Agostini et al, directed to the tire art, suggests using the high absorption capacities of reinforcements such as **silica** to absorb compounding ingredients such as antidegradants to thereby provide a free flowing rubber composition (col. 2 lines 46-67, col. 3 lines 25-32).

Remarks

3) Europe 341187 (side portion, table 4), US 5714022 to Nagao et al (tread side rubber, col. 8 lines 56-63), US 4152186 to Shibata (joint rubber, col. 4 lines 4-11) and Japan 6-16012 (figures 1-3) are cited of interest.

The remaining references are cited of interest.

4) No claim is allowed.


5) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
June 21, 2005


STEVEN D. MAKI 6-21-05
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733